

**APPENDIX**

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**The claims are amended as follows:**

1. (Amended) A direct-conversion demodulator in a RF reception system for radio communication comprising:

a down mixer for mixing a received RF signal and carrier signals [so that a phase difference between the received RF signal and carrier signals may be 90°], and thereby converting the RF signal into baseband signals of channels I and Q [having a phase difference of 90°];

a filter for filtering high-frequency components of the baseband signals of the two channels output from the down mixer;

a detector for detecting a gain control level corresponding to the difference obtained by comparing the levels of the baseband signals of the two channels [detected] output by the filter with a predetermined level;

an AGC for controlling gains of the baseband signals for each of the two channels output from the down mixer according to the gain control level detected by the detector;

a differentiator for differentiating the baseband signals of the two channels output from the filter;

a multiplier for cross multiplying the baseband signals of the two channels output from the differentiator and the baseband signals of the two channels output from the filter; and

an adder for adding the baseband signals of the two channels [multiplied] output by the multiplier and thereby detecting data.

**Claim 3 is added as a new claim.**

--3. An RF reception system for radio communication comprising:

an RF receiver for receiving an RF signal;

a down mixer for mixing the received RF signal and carrier signals, and thereby converting the received RF signal into baseband signals of channels I and Q;

a filter for filtering high-frequency components of the baseband signals of the two channels output from the down mixer;

a detector for detecting a gain control level corresponding to the difference obtained by comparing levels of the baseband signals of the two channels output by the filter with a predetermined level;

an AGC for controlling gains of the baseband signals for each of the two channels output from the down mixer according to the gain control level detected by the detector;

a differentiator for differentiating the baseband signals of the two channels output from the filter;

a multiplier for cross multiplying the baseband signals of the two channels output from the differentiator and the baseband signals of the two channels output from the filter; and

an adder for adding the baseband signals of the two channels output by the multiplier and thereby detecting data.--